Title (en)
NON-VOLATILE MEMORY REPAIR CIRCUIT

Title (de)
REPARATURSCHALTUNG FÜR NICHTFLÜCHTIGEN SPEICHER

Title (fr)
CIRCUIT DE RÉPARATION DE MÉMOIRE NON VOLATILE

Publication
EP 3392885 A1 20181024 (EN)

Application
EP 18162862 A 20180320

Priority
CN 201710255450 A 20170419

Abstract (en)
An integrated circuit includes on-chip flash memory, a EEPROM, cache memory, and a repair controller. When a defective address is detected in the flash memory, data slotted to be stored at the defective address is stored in the EEPROM by the repair controller. The cache memory includes a content addressable memory (CAM) that checks read addresses with the defective memory address and if there is a match, the data stored in the EEPROM is moved to the cache so that it can be output in place of data stored at the defective location of the flash memory. The memory repair system does not require any fuses nor is the flash required to include redundant rows or columns. Further, defective addresses can be detected and repaired on-the-fly.

IPC 8 full level
G11C 29/00 (2006.01); G11C 29/44 (2006.01); G11C 29/04 (2006.01); G11C 29/12 (2006.01)

CPC (source: CN EP US)
G06F 11/0793 (2013.01 - US); G06F 11/1064 (2013.01 - US); G06F 11/1666 (2013.01 - US); G06F 11/18 (2013.01 - US); G06F 11/181 (2013.01 - US); G06F 11/2094 (2013.01 - US); G11C 29/44 (2013.01 - CN US); G11C 29/4401 (2013.01 - EP US); G11C 29/76 (2013.01 - EP US); G11C 29/789 (2013.01 - EP US); G11C 29/808 (2013.01 - EP US); G11C 29/846 (2013.01 - EP US); G06F 2201/805 (2013.01 - US); G06F 2201/82 (2013.01 - US); G11C 2029/0403 (2013.01 - EP US); G11C 2029/1208 (2013.01 - EP US); G11C 2029/4402 (2013.01 - EP US)

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Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3392885 A1 20181024; **EP 3392885 B1 20201111**; CN 108735268 A 20181102; CN 108735268 B 20240130; US 10229025 B2 20190312; US 2018308562 A1 20181025

DOCDB simple family (application)
EP 18162862 A 20180320; CN 201710255450 A 20170419; US 201715593326 A 20170512